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EXAMINER	
LOVEL, KIMBERLY M	

ART UNIT	PAPER NUMBER
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,644	MEREDITH ET AL.	
	Examiner	Art Unit	
	KIMBERLY LOVEL	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,8,9,14,16,20,21 and 26-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 8, 9, 14, 16, 20, 21 and 26-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 2, 8, 9, 14, 16, 20, 21 and 26-35 are currently pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 February 2009 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 8, 9, 14, 16, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,584,464 to Warthen (hereafter Warthen) in view of US Patent No 6,493,721 to Getchius et al (hereafter Getchius) in view of US PGPub 2004/0199498 to Kapur et al (hereafter Kapur) in view of US PGPub 2004/0260677 to Malpani et al (hereafter Malpani).

Referring to claim 1, Warthen discloses a method of compressing a log of natural language data (see column 4, lines 65-66), the log having a plurality of natural language help query strings [questions] (see column 4, lines 38-41) relative to a help function of a computer system, each help query string including at least two words [i.e., Where can I find information on the sport bicycling?] (see column 4, lines 32-36). However, Warthen fails to explicitly disclose the further limitations of the actual steps taken to compress the log. Getchius discloses optimizing search queries (see abstract), including the further limitation of applying a subsumption operation to each string, wherein the subsumption operation identifies a single word difference between the query string and another query string (see column 24, lines 7-22; and column 41, line 58 – column 42, line 15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the concept of subsumption as disclosed by Getchius as the type of compression performed by Warthen. One would have been motivated to do so in order to increase the accuracy of determining if two strings are duplicates.

The combination of Warthen and Getchius (hereafter Warthen/Getchius) fails to explicitly disclose the further limitations of removing one of the strings and training a statistical process. Kapur discloses receiving various query log files from various sources and then processing the logs (see [0035], lines 1-8), including the further limitations of: applying a compression operation [canonicalized] to each string (see [0036], lines 3-5); and removing one of the two query strings from the log to form a compressed log [multiple occurrences of the same query are included as a single query] (see [0035], lines 10-13 and Fig 5, step 510).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the query processing engine disclosed by Kapur/Getchius to compress the log of questions disclosed by Warthen. One would have been motivated to do so in order to produce a set of questions which improve the process of determining the context of a user query and then associating the most useful result with the query (Warthen: see column 1, lines 43-51) in order to produce a set of questions which improve the process of determining the context of a user query and then associating the most useful result with the query.

The combination of Warthen/Getchius and Kapur (hereafter Warthen/Getchius/Kapur) fails to explicitly disclose the further limitation of training a statistical process with the log. Malpani discloses search category classification (see abstract), including the further limitation of training a statistical process [classification component 120 which implements a statistical model] with the log [training data source] (see [0030] and [0031]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the compressed log of Warthen/Getchius/Kapur to train a statistical process as disclosed by Malpani since the classification component of Malpani can be trained from one or more of a number of sources (Malpani: see [0021]). One would have been motivated to do so in order to increase search providers in understanding user intent and providing optimal search results and content to querying users (Kapur: see [0005] and [0006]).

Referring to claim 2, the combination of Warthen/Getchius/Kapur and Malpani (hereafter Warthen/Getchius/Kapur/Malpani) discloses the method of claim 1, wherein the log is a log of user-initiated inputs [users' questions] to a help interface [client interface] (Warthen: see column 3, lines 59-67).

Referring to claim 8, Warthen/Kapur/Malpani/Getchius discloses the method of claim 1, wherein subsumption includes applying an impossibility condition to selectively compute edit distance [edit distance] (Getchius: see column 41, line 58 – column 42, line 15 and Kapur: see [0048], lines 13-31).

Referring to claim 9, Warthen/Getchius/Kapur/Malpani discloses the method of claim 1, and further comprising:

applying a second subsumption operation [tokenized] to each help query string (Kapur: see [0036], lines 23-28);

determining if any two strings match each other after the second subsumption operation [convergence] (Kapur: see [0038], lines 1-2); and

removing one of the two help query strings from the log (Kapur: see [0038], lines 5-6).

Referring to claim 14, Warthen discloses a system for compressing a query log having a plurality of linguistic help query strings [questions] (see column 4, lines 38-41 and 65-66), each string having a plurality of words [i.e., Where can I find information on the sport bicycling?] (see column 4, lines 32-36).

However, Warthen fails to explicitly disclose the further limitations of the actual steps taken to compress the log. Getchius discloses optimizing search queries (see abstract), including the further limitation of applying a subsumption operation to each string, wherein the subsumption operation identifies a single word difference between the query string and another query string (see column 24, lines 7-22; and column 41, line 58 – column 42, line 15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the concept of subsumption as disclosed by Getchius as the type of compression performed by Warthen. One would have been motivated to do so in order to increase the accuracy of determining if two strings are duplicates.

However, Warthen/Getchius fails to explicitly disclose the further limitations of the actual steps taken to compress the log. Kapur discloses receiving various query log files from various sources and then processing the logs (see [0035], lines 1-8), including the further limitations of:

an input for receiving a raw query log of natural language strings relative to a help function of a computer (see [0035], lines 3-8);

memory [memory or database file 310] for storing the raw query log (see [0035], lines 19-31);

a processor [query processing engine 300] (see Fig 3) for applying at least one compression operation [canonicalized] (see [0036], lines 3-5), and for removing one of the strings [consolidate] (see Fig 5, step 510 and [0035], lines 10-13).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the query processing engine disclosed by Kapur to compress the log of questions disclosed by Warthen/Getchius. One would have been motivated to do so in order to produce a set of questions which improve the process of determining the context of a user query and then associating the most useful result with the query (Warthen: see column 1, lines 43-51).

Warthen/Getchius/Kapur fails to explicitly disclose the further limitation of wherein the processor is configured to utilize the query log to train a statistical process. Malpani discloses search category classification (see abstract), including the further limitation of wherein the processor is configured to utilize the query log [training data source] to train a statistical process [classification component 120 which implements a statistical model] (see [0030] and [0031]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the query log of Warthen/Kapur to train a statistical process as disclosed by Malpani since the classification component of Malpani can be trained from one or more of a number of sources (Malpani: see [0021]). One would have been motivated to do so in order to increase search providers in understanding

user intent and providing optimal search results and content to querying users (Kapur: see [0005] and [0006]).

Referring to claim 16, Warthen/Kapur/Malpani discloses the system of claim 15, wherein each help-related query is relative to a computer system [corporate network answering employee questions] (Warthen: see column 3, lines 59-67).

Referring to claim 20, Warthen/Getchius/Kapur/Malpani discloses the system of claim 19, wherein subsumption includes applying an impossibility condition to selectively compute edit distance [edit distance] (Getchius: see column 41, line 58 – column 42, line 15 and Kapur: see [0048], lines 13-31).

Referring to claim 21, Warthen/Getchius/Kapur/Malpani discloses the system of claim 14, and further comprising:

applying a second subsumption operation [tokenized] to each string (Kapur: see [0036], lines 23-28);

determining if any two strings match each other after the second subsumption operation [convergence] (Kapur: see [0038], lines 1-2); and

removing one of the two matching strings from the log (see [0038], lines 5-6).

6. Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,584,464 to Warthen (hereafter Warthen) in view of US Patent No 6,493,721 to Getchius et al in view of US PGPub 2004/0199498 to Kapur et al in

view of US PGPub 2004/0260677 to Malpani et al as applied to claims 1 and 14 above respectively, and further in view of US PGPub 20040059736 to Willse et al (hereafter Willse).

Referring to claims 26 and 31, Warthen/Getchius/Kapur/Malpani fails to explicitly disclose the further limitation wherein the method further comprises discarding the additional word and collapsing the pair of help query strings if the additional word does not significantly change the meaning. Willse discloses subsumption, including the further limitation wherein the method further comprises discarding the additional word and collapsing the pair of help query strings if the additional word does not significantly change the meaning (see [0071]).

It would have been obvious to one of ordinary skill in the art to apply the subsumption operations of Willse to those of Warthen/Getchius/Kapur/Malpani. One would have been motivated to do so in order to decrease the amount of memory required to store the log through compression of the log.

Referring to claims 27 and 32, the combination of Warthen/Getchius/Kapur/Malpani and Willse discloses the method of claim 26, wherein the subsumption operation includes a statistical operation relative to the additional word (Willse: see [0111]).

Referring to claims 28 and 33, Warthen/Getchius/Kapur/Malpani fails to explicitly disclose the further limitation wherein the subsumption operation is absolute between an N word help query string and an (N-1) word help query string. Willse discloses subsumption, including the further limitation wherein the subsumption

operation is absolute between an N word help query string and an (N-1) word help query string (see [0071] and [0073]).

It would have been obvious to one of ordinary skill in the art to apply the subsumption operations of Willse to those of Warthen/Getchius/Kapur/Malpani. One would have been motivated to do so in order to decrease the amount of memory required to store the log through compression of the log.

Referring to claims 29 and 34, Warthen/Getchius/Kapur/Malpani fails to explicitly disclose the further limitation wherein the subsumption operation is guided by vocabulary features. Willse discloses subsumption, including the further limitation wherein the subsumption operation is guided by vocabulary features [vocabulary taxonomy] (see [0067]).

It would have been obvious to one of ordinary skill in the art to apply the subsumption operations of Willse to those of Warthen/Getchius/Kapur/Malpani. One would have been motivated to do so in order to decrease the amount of memory required to store the log through compression of the log.

Referring to claims 30 and 35, Warthen/Getchius/Kapur/Malpani fails to explicitly disclose the further limitation wherein subsumption is blocked if the additional word is in a control vocabulary. Willse discloses subsumption, including the further limitation wherein subsumption is blocked if the additional word is in a control vocabulary (see [0067]).

It would have been obvious to one of ordinary skill in the art to apply the subsumption operations of Willse to those of Warthen/Getchius/Kapur/Malpani. One

would have been motivated to do so in order to decrease the amount of memory required to store the log through compression of the log.

Response to Arguments

7. Applicant's arguments filed on page 7 of the Remarks in regards to Getchius have been fully considered but they are not persuasive. The examiner respectfully disagrees that Getchius fails to teach the subsumption in the same manner as what is claimed by the limitation. Getchius deals with subsets and supersets. Also, Getchius discusses edit distance. The edit distance is the difference between two strings. Therefore the edit distance takes care of there being a difference between a single word in the two queries.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John R. Cottingham/
Supervisory Patent Examiner, Art Unit 2167

/Kimberly Lovel/
Examiner
Art Unit 2167

10 May 2009
/kml/